

REMARKS/ARGUMENTS

Claims 1-22 remain pending in this application. This paper amends claims 1, 4-8, 10, 12, 14, 16 and 20-22. Claim 23 is cancelled without prejudice or disclaimer.

In addition, because the P.T.O. has objected to Figures 2, 4, 5, 7 and 8, this paper amends the drawings and the specification, as discussed below.

Objections to the drawings

In the Office Action, the P.T.O. objects to Figures 2, 4, 5, 7 and 8 for omission of reference numbers associated with certain reference arrows. Accordingly, replacement drawing sheets for Figures 2, 4, 5, 7 and 8 showing amended figures in which reference arrows are labeled with reference numbers are provided herein. The changes are supported in the specification and drawings, as discussed below.

In Figure 2 as amended, support for added reference number 18 can be found at least on page 6, paragraph [0042], lines 26-28. Support for added reference number 30 can be found at least on page 7, paragraph [0046], lines 32-34. Support for added reference number 36 can be found at least on page 7, paragraph [0045], lines 20-25.

In Figure 4 as amended, support for added reference number 18 can be found at least on page 6, paragraph [0042], lines 26-28.

In Figure 5 as amended, support for added reference number 18 can be found at least on page 6, paragraph [0042], lines 26-28.

In Figure 7 as amended, support for added reference number 10 can be found at least on page 6, paragraph [0041], lines 20-22.

In Figure 8 as amended, support for added reference number 32 can be found at least on page 7, paragraph [0046], lines 32-34.

In the specification, the paragraphs [0044] and [0045] have been amended to correct minor scrivener errors related to the drawings. In paragraph [0044], "cover sheet 156," is supported at least on paragraph [0044] as originally filed. In paragraph [0045], support for "rehydration liquid 36" can be found at least on page 7, paragraph [0045], lines 20-25.

Applicant believes that the corrections to the drawings and amendments to the specification address the P.T.O.'s concerns and add no new matter to the specification. Applicant, therefore, requests withdrawal of the objection to the drawings.

Objections to the Claims

In the present Office Action, the P.T.O. objects to claims 4-7 under 37 C.F.R. § 1.75(c) for compound multiple dependencies. This objection is obviated in view of the amendments of claims 4-7 which remove multiple dependencies. Support for claims 4-7 as amended can be found at least on claims 4-7 as originally filed. Applicant, therefore, requests reconsideration and withdrawal of the objection to claims 4-7

CLAIM REJECTIONS

The P.T.O. has rejected certain claims under 35 U.S.C. § 102, 35 U.S.C. § 103 and/or 35 U.S.C. § 112. In response, applicant has made claim amendments for which support can be found as discussed below.

Support for claim 1 as amended can be found at least on claim 1 as originally filed. In addition, support for "with the support means oriented in a generally vertical plane" can be

found at least on page 4, paragraph [0016]; support for "after the first dimension separation of step b has been carried out, tilting the support means so that the first electrophoretic separation medium is at an angle to the horizontal and flushing the liquid out from the gap between the first electrophoretic separation medium and the second electrophoretic separation medium" can be found at least on page 4, paragraph [0017]; support for "applying an electric field to transfer sample molecules from the first electrophoretic separation medium to the second electrophoretic separation medium" can be found at least on page 4 paragraph [0018].

Support for claim 8 as amended can be found at least on claim 8 as originally filed. In addition, support for "a gas impermeable cover means" can be found at least on page 4, paragraph [0021], and page 7 paragraph [0043] lines 8-9.

Support for claim 10 as amended can be found at least on claim 10 as originally filed.

Support for claim 12 as amended can be found at least on claim 12 as originally filed.

Support for claim 13 as amended can be found at least on claim 13 as originally filed and on page 7 paragraph [0046] first sentence.

Support for claim 14 as amended can be found at least on claim 14 as originally filed. In addition, support for "a removable, gas impermeable thin film cover" can be found at least on page 4, paragraph [0021], and page 7 paragraph [0043] lines 8-9.

Support for claim 16 as amended can be found at least on claim 16 as originally filed.

Support for claim 20 as amended can be found at least on claim 20 as originally filed. In addition, support for "a removable, gas impermeable thin film cover" can be found at least on page 4, paragraph [0021], and page 7 paragraph [0043] lines 8-9; support for "wherein upon removal of the cover the fluid retaining space can retain a non-electrically conducting liquid

"whereby the first medium can be used to conduct an electrophoretic separation" can be found at least on page 4 paragraph [0016], page 7 paragraph [0045], and pages 7-8 paragraph [0046].

Support for claim 21 as amended can be found at least on claim 21 as originally filed. In addition, support for "a removable, gas impermeable thin film cover" can be found at least on page 4, paragraph [0021], and page 7 paragraph [0043] lines 8-9; support for "whereby after the cover has been removed and the first medium used for a first electrophoretic separation, a bridging material can be disposed in the fluid retaining space" can be found at least on page 4 paragraph [0016], page 7 paragraph [0045], and pages 7-8 paragraph [0046]; support for "whereby the second medium can be used for electrophoretic separation of the materials electrophoretically separated in the first medium" can be found at least on page 4 paragraph [0018].

Support for claim 22 as amended can be found at least on claim 22 as originally filed. In addition, support for "a removable, gas impermeable thin film cover" can be found at least on page 4, paragraph [0021], and page 7 paragraph [0043] lines 8-9; support for "conducting a second electrophoretic separation of the material separated in the first electrophoretic separation" can be found at least on page 4 paragraph [0018].

CLAIM REJECTIONS UNDER 35 U.S.C. § 112

In the Office Action, the P.T.O. has rejected claims 1-3, 13, 16, 20 and 21 under 35 U.S.C. § 112, second paragraph. Reconsideration and withdrawal of the rejections is requested in view of the amendments and for the reasons set forth below.

Claim 1 is rejected for reciting "support means" in step a and "planar support means" in step b. The claim has been amended to clarify that the support means in steps a and b refer to the same structure. Withdrawal of the rejection is requested in view of the amendment.

Claim 1 is further rejected for reciting "after the first separation has been carried out" in step c, which the P.T.O. has interpreted as a being an actual step. Step c in claim 1 has been amended to clarify that the "first separation" refers to the first dimension separation of step b. Withdrawal of the rejection is requested in view of the amendment.

Claim 1 is further rejected for reciting "under the influence of the electric field" in step d, which the P.T.O. has also interpreted as an actual step. In response to the PTO's concerns, step d has been rewritten and step e added to clarify that flowing a liquid buffer and applying an electric field are separate steps. Withdrawal of the rejection is requested in view of the amendment.

Claim 13 is rejected for reciting "widened electrode bridge portions," which the P.T.O. asserts it is unable to construe. The claim is now amended to remove "widened."

Claim 16 is rejected for recitation of "is opens." Withdrawal of the rejection is requested in view of the amendment, in which "is" is removed.

Claims 20-21 are rejected in that the P.T.O. found the claims unclear because, in the P.T.O.'s view, they appear to be drawn to how the device is used and not the device itself. The claims have been amended to clarify the language, and, therefore, withdrawal of the rejection is respectfully requested.

CLAIM REJECTIONS UNDER 35 U.S.C. § 102

The P.T.O. has rejected claims 8, 14-16, and 20-23 under 35 U.S.C. § 102(b) in view of Hochstrasser, US Patent 5,773,645. Applicant requests reconsideration of this rejection, because the subject matter of these claims as amended is neither disclosed nor suggested in Hochstrasser.

In the Office Action, the P.T.O. asserts that Hochstrasser discloses the presence of "a thin film cover means 25 that encloses the elongate strip." However, the thin film cover means of Hochstrasser is not a gas impermeable cover recited in the claims 8, 14-16, and 20-22 as amended. Furthermore, the present application discloses, on page 4, paragraph 21, that "[A]ir can cause oxidation of the strips..." which was not contemplated in Hochstrasser. Although Hochstrasser might disclose a "moisture-impermeable material" as stated in the passage cited by the P.T.O., Hochstrasser neither discloses or suggests a gas impermeable cover as recited in the present claims. Hence, Hochstrasser does not anticipate the present claims and Applicant, therefore, requests withdrawal of the rejection of claims 8, 14-16, and 20-23 under 35 USC 102(b).

CLAIM REJECTIONS UNDER 35 U.S.C. § 103

The P.T.O. has rejected claims 9, 10 and 17-19 under 35 U.S.C. § 103(a) as unpatentable over Hochstrasser in view of Tocci (US Patent 3,715,295). Applicant respectfully requests reconsideration of the rejection, because the P.T.O. has not established a prima facie case for obviousness as required under recognized patent practice and procedure as well as by case law. To establish a prima facie case for obviousness, the P.T.O. must show that all claim limitations are taught or suggested. M.P.E.P. § 2143.03; In re Royka, 180 USPQ 580 (CCPA 1974); In re Wilson, 165 USPQ 494, 496 (CCPA 1970) ("All words in a claim must be considered in judging

the patentability of that claim against the prior art.""). In addition, for the P.T.O. to make a determination of obviousness, the invention must be considered as a whole without the benefit of hindsight. Rockwell International Corp. v. United States, 47 USPQ2d 1027, 1031 (Fed. Cir. 1998); W.L. Gore & Associates, Inc. v. Garlock, Inc., 220 USPQ 303, 312 (Fed. Cir. 1983) ("To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.")

In the present Office Action, with respect to claims 9, 10, 17 and 18, the P.T.O. asserts that it would have been obvious to combine the teachings of Tocci and Hochstrasser because both plastic and metal films are art recognized equivalent means for sealing a gel. However, neither Hochstrasser nor Tocci teach the use of either plastic or metal films for sealing a gel. Hochstrasser teaches an enclosure that forms a reservoir for the retention of liquids (column 4, lines 31-34). Tocci teaches a disposable tank in which buffers are covered by a thin sheet made preferably of metal foil or a thin plastic sheet to act as a seal until the tank is ready for use. (column 3, lines 1-7). Thus, neither Hochstrasser nor Tocci teaches a thin sheet for sealing a gel. Applicant, therefore, requests withdrawal of the rejection of claims 9, 10, 17 and 18 under 35 U.S.C. § 103.

With respect to claim 19, the P.T.O. cites both Hochstrasser and Tocci for teaching the use of plastic films. The P.T.O. asserts that it would have been obvious to one of ordinary skill to utilize electrically conductive plastic foils. However, Applicant respectfully submits that in making this assertion, the P.T.O. is engaging in improper hindsight, as neither Hochstrasser nor Tocci teaches the use of an electrically conductive plastic foil. In this connection, Hochstrasser

teaches a seal of moisture-impermeable material (column 4, lines 44-50, as cited by the P.T.O.), while Tocci teaches "a thin sheet made preferably of metal foil or a thin plastic sheet to act as a seal until the tank is ready for use." Thus, neither Hochstrasser nor Tocci, either separately or in combination, teaches the use of electrically conductive plastic foils. Hence, the P.T.O. has not established a *prima facie* case for obviousness and Applicant, therefore, requests withdrawal of the rejection of claims 9, 10, 17-19 under 35 U.S.C. § 103(a).

The P.T.O. has rejected claims 11-13 under 35 U.S.C. § 103(a) as unpatentable over Hochstrasser. First, the P.T.O. states that Hochstrasser sets forth all the limitations of claims 11 and 12, but does not explicitly recite the specified dimensions for a gap and side walls of the apparatus. The P.T.O. further asserts that such dimensions could be determined using only routine skill in the art. However, claim 8 as amended, upon which claims 11 and 12 depend, recites a gas impermeable cover means, which is not taught by Hochstrasser. Thus, even if, *arguendo*, the gap widths taught by Hochstrasser could be determined using only ordinary skill in the art, such knowledge of gap widths can not be combined with Hochstrasser to read on claims 11 and 12. Hence, the P.T.O. has not established a *prima facie* case for obviousness and Applicant, therefore, requests withdrawal of the rejection of 11and 12 under 35 U.S.C. § 103(a).

Second, the P.T.O. rejects claim 13 as obvious over Hochstrasser, citing column 5, lines 18-23 therein. The passage cited in Hochstrasser describes electrical contacts between a power supply and a gel. However, claim 8, upon which claim 13 depends, recites a gas impermeable cover sheet, which is not taught by Hochstrasser. Thus, even if, *arguendo*, the electrical contacts taught by Hochstrasser could be adapted to the present invention using only ordinary skill in the art, such electrical contacts can not be combined with Hochstrasser to read on claim 13. Hence, the P.T.O.

has not established a prima facie case for obviousness and Applicant, therefore, requests withdrawal of the rejection of claim 13 under 35 U.S.C. § 103(a).

ALLOWABLE SUBJECT MATTER

The P.T.O. states that claims 1-3 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. § 112, second paragraph as set forth in the present Office Action. Applicant believes that the claims as amended respond to the P.T.O. concerns.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (314) 726-7500.

Respectfully submitted,



Saul L. Zackson, Ph.D., Reg. No. 52,391
HARNESS, DICKEY & PIERCE, P.L.C.
7700 Bonhomme Avenue, Suite 400
St Louis, MO 63105